We claim:-

1. A multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains finely divided magnetic pigment having a coercive force H_c of 80 - 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components, the coercive force H_c of the lower layer being less than 4 kA/m and the anhysteretic susceptibility of the lower layer at 2 kA/m being greater than 7.

2. A magnetic recording medium as claimed in claim 1, wherein the coercive force H_c of the pigment in the upper layer is from 130 to 220 kA/m.

3. A magnetic recording medium as claimed in claim 1, wherein the magnetic pigment in the upper layer is a metal pigment or metal alloy pigment.

4. A magnetic recording medium as claimed in claim 1, wherein the magnetic pigment in the upper layer is a hexagonal ferrite pigment or a Co-modified γ-Fe_2O_3, a Co-modified Fe_3O_4 or a solid solution of these components.

5. A magnetic recording medium as claimed in claim 1, wherein the isotropic magnetically soft pigment in the lower layer has a mean crystallite size of from 7 to 17 nm.

6. A magnetic recording medium as claimed in claim 1, wherein the amount of the magnetically soft pigment in the lower layer is more than 45% by weight, based on the weight of all pigments in the lower layer.

7. A magnetic recording medium as claimed in any claim 5, wherein the amount of the magnetically soft pigment in the lower layer is more than 45% by weight, based on the weight of all pigments in the lower layer.

8. A magnetic recording medium as claimed in claim 6, wherein the amount of the magnetically soft pigment in the lower layer is more than 75% by weight, based on the weight of all pigments in the lower layer.

9. A magnetic recording medium as claimed in claim 7, wherein the amount of the magnetically soft pigment in the lower layer is more than 75% by weight, based on the weight of all pigments in the lower layer.

10. A magnetic recording medium as claimed in claim 1, wherein the magnetically soft pigment in the lower layer has been surface-treated with an aluminum compound or with a silicon compound or with a mixture of the two compounds.

11. A magnetic recording medium as claimed in claim 9, wherein the magnetically soft pigment in the lower layer has been surface-treated with an aluminum compound or with a silicon compound or with a mixture of the two compounds.

12. A magnetic recording medium as claimed in claim 1, wherein the magnetic pigment in the lower layer is spherical, cubic or amorphous.

13. A magnetic recording medium as claimed in claim 11, wherein the magnetic pigment in the lower layer is spherical, cubic or amorphous.

14. A magnetic recording medium as claimed in claim 1, wherein the lower layer contains at least one nonmagnetic pigment in addition to the magnetically soft pigment.

15. A magnetic recording medium as claimed in claim 13, wherein the lower layer contains at least one nonmagnetic pigment in addition to the magnetically soft pigment.

16. A magnetic recording medium as claimed in claim 14, wherein the nonmagnetic pigment is acicular, having a mean longitudinal axis of from 5 to 200 nm, or spherical or amorphous, having a mean particle size of from 5 to 350 nm.

17. A magnetic recording medium as claimed in claim 15, wherein the nonmagnetic pigment is acicular, having a mean longitudinal axis of from 5 to 200 nm, or spherical or amorphous, having a mean particle size of from 5 to 350 nm.

18. A magnetic recording medium as claimed in claim 15, wherein the nonmagnetic pigment is α-Fe_2O_3.

19. A magnetic recording medium as claimed in claim 16, wherein the nonmagnetic pigment is α-Fe_2O_3.

20. A magnetic recording medium as claimed in claim 15, wherein the nonmagnetic pigment is carbon black.

21. A magnetic recording medium as claimed in claim 16, wherein the nonmagnetic pigment is carbon black.

22. A magnetic recording medium as claimed in claim 15, wherein the nonmagnetic pigment is a mixture of carbon black and α-Fe_2O_3.

23. A magnetic recording medium as claimed in claim 16, wherein the nonmagnetic pigment is a mixture of carbon black and α-Fe_2O_3.

24. A process for the production of a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains a finely divided magnetic pigment having a coercive force H_c of 80 - 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components, the coercive force H_c of the lower layer being less than 4 kA/m and the anhysteretic susceptibility of the lower layer at 2 kA/m being greater than 7, comprising:

- mixing, kneading and dispersing of an isotropic magnetically soft pigment, selected from γ-Fe_2O_3, Fe_3O_4 or a solid solution of these components, a binder, a solvent and further additives and applying the dispersion to a nonmagnetic substrate to form a moist lower layer;
- mixing, kneading and dispersing a finely divided magnetic pigment having a coercive force H_c of 80 – 250 kA/m with a binder, a solvent and further additives and applying the dispersion to the lower layer for form a moist upper magnetic recording layer:
- orienting the moist layers in a magnetic field;
- drying the moist layers until the upper layer reaches a thickness of less than 0.5 μm; and
- subsequent calendering and separating,

so that the coercive force of the lower layer is less than 4 kA/m and the anhysteretic susceptibility of the lower layer at 2 kA/m is greater than 7.

25. A process for forming a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains a finely divided magnetic pigment having a coercive force H_c of 80 - 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components, the coercive

force H_c of the lower layer being less than 4 kA/m and the anhysteretic susceptibility of the lower layer at 2 kA/m being greater than 7, which comprises adding as the isotropic magnetically soft pigment in the lower layer at least one of γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components, and which has a mean crystallite size of from 7 to 17 nm.

26. A magnetic tape, magnetic card or floppy disk comprising a multilayer magnetic recording medium which comprises, on a nonmagnetic substrate, at least one upper binder-containing magnetic recording layer which has a thickness of less than 0.5 μm and contains a finely divided magnetic pigment having a coercive force H_c of 80 - 250 kA/m, and at least one lower binder-containing layer which contains an isotropic magnetically soft pigment which is selected from γ-Fe_2O_3, Fe_3O_4 and a solid solution of these components, the coercive force H_c of the lower layer being less than 4 kA/m and the anhysteretic susceptibility of the lower layer at 2 kA/m being greater than 7.